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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,870	10/20/2003	Matthias Heller	Q72403	2070

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EXAMINER

BUEKER, RICHARD R

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 01/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/687,870	Applicant(s) HELLER ET AL. AL	
	Examiner Richard Bueker	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claims 4 and 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 4, the phrase "the thermal radiation" lacks proper antecedent basis. In claim 12, the scope of the phrase "two-dimensionally abut" is unclear because the heat conducting elements and substrates to be coated (lens) that are described with respect to Fig. 5 are three-dimensional objects that are in contact with each other in three dimensions.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 12 and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Deklerk (3,632,439) (see the

Fig., col. 2, lines 70-71 and col. 3, lines 41-47) or Suzuki (5,803,975) (see for example heater 114 of Fig. 1, col. 6, lines 12-13 and col. 9, lines 24-34), each of whom discloses a substrate coating apparatus comprising a substrate holder for holding a substrate at a coating position for coating the substrate on a coating side, and a substrate heater which comprises a backside heater for actively heating the substrate from the backside opposite the coating side, while the substrate is at the coating position. Both Deklerk and Suzuki teach that their apparatus can be used for coating CaF_2 substrates, and therefore their apparatus are configured for coating CaF_2 substrates as recited in claim 2.

Claims 1-5, 8 and 12-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Okase (5,592,581) (Figs. 1-7), who discloses a CVD substrate coating apparatus which includes front side and back side IR radiating heaters, a quartz substrate holder which is transparent to IR radiation, and a substrate conveyor 28 which includes heat transfer barriers 42a and 42b made of aluminum, stainless steel or the like (col. 5, lines 55 to col. 6, line 23, and col. 7, lines 52-64) which enclose associated ones of the substrates 2 as a hood during respective cooling-down periods as recited in claim 8.

Claims 1-3 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Weber (2,610,606) (Figs. 1-4), who discloses a substrate coating apparatus having a back side heater and a heat shield hood (element 20 or element 27 of Weber's Figs.) (see also col. 6, lines 52-55 and col.

7, lines 7-16). The heat shield 20 or 27 of Weber would inherently enclose the substrates during cool-down periods.

Claims 1-4, 8-10 and 12-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Choo (5,133,286) (Figs. 2-4), who discloses a substrate coating apparatus comprising a substrate holder for holding a substrate at a coating position for coating the substrate on a coating side, and a substrate heater which comprises a backside heater for actively heating the substrate from the backside opposite the coating side, while the substrate is at the coating position. The substrate carriers of Choo are provided with a planetary drive system. The heater blocks of Choo inherently act as heat transfer barriers during cool down. The heaters of Choo are arranged in a ring, and can be considered to be open or closed.

Claims 1, 2, 8-10, 12 and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wollam (3,783,822) (Fig. 6), who discloses a substrate coating apparatus comprising a substrate holder for holding a substrate at a coating position for coating the substrate on a coating side, and a substrate heater which comprises a backside heater for actively heating the substrate from the backside opposite the coating side, while the substrate is at the coating position. The substrate carriers of Wollam are provided with a planetary drive system. The heat radiating inner and outer heating plates 54 and 68 are ring shaped and can be considered to be open or considered to be closed. Wollam also teaches (col. 6, lines 7-12) that an infrared radiant heater can be used as the heater in his apparatus.

Claims 1, 2, 8, 12 and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Frijlink (4,961,399) (Figs. 1 and 2 and col. 4, lines 10-16), who discloses a substrate coating apparatus comprising a substrate holder for holding a substrate at a coating position for coating the substrate on a coating side, and a substrate heater which comprises a backside heater for actively heating the substrate from the backside opposite the coating side, while the substrate is at the coating position. The substrate carriers of Wollam are provided with a planetary drive system.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frijlink taken in view of Anderson (5,551,982), Moslehi (5,367,606) and Zettler (2002/0113971). Frijlink teaches the use of infrared lamps 58 (Fig. 1) to heat his planetary susceptor, but does not teach the use of a pyrometer for temperature measurement. Anderson (Fig. 1 and col. 1, lines 29-38) teaches that it was known to be desirable to use a pyrometer to measure the temperature at the backside of a susceptor that is heated by infrared lamps, and for that reason it would have been obvious to use a pyrometer to measure the temperature of Frijlink's susceptor. Moslehi also teaches the use of a pyrometer to measure the temperature at the backside of a substrate that is heated by infrared lamps in a manner analogous to that of Anderson. Moslehi also illustrates that heat lamps can desirably be arranged in a ring with gaps between the lamps, and with pyrometers located in the gaps between the lamps. It would have been obvious to one skilled in the art to provide the lamps of Frijlink in rings and to place temperature control pyrometers in gaps in the rings of lamps, because Moslehi teaches that this is a successful way of

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arranging heat lamps for heating a substrate. Also, Zettler (paragraph 9) teaches that it was known to be desirable to use pyrometry to monitor the temperature in a planetary rotation coating apparatus. Zettler provides further motivation for one skilled in the art to use pyrometry, as taught by Anderson and Moslehi, to monitor the temperature in Frijlink's planetary rotation coating apparatus.

Claims 1-5 and 12-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Moore (5,683,518) (Fig. 3B), who discloses a substrate coating apparatus comprising a substrate holder for holding a substrate at a coating position for coating the substrate on a coating side, and a substrate heater which comprises a backside heater for actively heating the substrate from the backside opposite the coating side, while the substrate is at the coating position. Moore (col. 15, lines 55-62) teaches that the substrate holder can be made of quartz for transmitting heat directly to the substrates. It is noted that the heater 327 of Fig. 3B of Moore is not in contact with the substrate holder and it is thus clear that heater 327 transmits heat to the substrates by emission of IR radiation. Regarding claim 5, the quartz of Moore's substrate holder is a layer of Si material.

Claims 1-3, 9-10 and 12-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Van Leer (2,532,971) (Figs. 1-5), who discloses a substrate coating apparatus comprising a substrate holder for holding a substrate at a coating position for coating the substrate on a coating side, and a substrate heater which comprises a backside heater for actively heating the substrate from the backside opposite the coating side, while the substrate is at the

coating position. The substrate holder includes spring elements 116 (Figs. 4 and 5) that elastically press elements 118, 119 and 122 against the substrate, so that they at least two-dimensionally abut the substrate. It is noted that elements 118, 119 and 122 inherently meet the claim description of "heat conducting".

Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

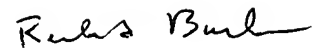
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (571) 272-1431. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (571) 272-1439. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Richard Bueker". The signature is fluid and cursive, with the first name "Richard" and last name "Bueker" clearly distinguishable.

Richard Bueker
Primary Examiner
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